

**ON THE DISTRIBUTION OF *EUNICA* (FORMERLY IN *LIBYTHINA*)  
*CUVIERII* (GODART) (LEP.: NYMPHALIDAE) INCLUDING A NEW  
RECORD OF THE SPECIES FROM MINAS GERAIS, BRAZIL**

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**Introduction**

THE NEOTROPICAL nymphalid butterfly *Eunica cuvierii* (Godart) (1819: p. 171), which had formerly been placed under *Libythina* Felder (1861: p. 49; by monotypy) rather than under *Eunica* Hübner (1819: p. 61) (see Jenkins 1990, for review), has hitherto attracted only few attention by lepidopterologists as is the case with some other *Eunica* species, although most members of the group are brightly coloured and some of them enjoy a tremendous amount of subspecific and infrasubspecific names (125 names described; Jenkins 1990). This is due to the fact, that most *Eunica* taxa are rather seldomly encountered, with *E. cuvierii* representing possible one of the rarest species in the group, which comprises at present 45 species and 24 subspecies (as recognised by Jenkins 1990). The present study intends to shed some light on the distribution of *E. cuvierii*.

**General remarks on *Eunica* species**

The members of the genus occur at various localities in the Americas, ranging from southern areas of the USA to Southern Brazil and Argentina (e.g. DeVries 1987, D'Abrera 1987, Jenkins 1990). The distribution ranges of most of the individual taxa, however, seem to be rather strictly confined, particularly regarding the Antilles. Possibly, *Eunica* in fact may represent several genera (Brown and Heineman 1972), but the material collected so far seems to be too few to allow any general conclusions on the topic at this time.

***Eunica* species in Costa Rica**

Regarding *Eunica* species and their natural history, Costa Rica is by far best understood. According to DeVries (1987), the Costa Rican taxa of the genus (see Jenkins 1990 for taxonomy; not all of the taxa mentioned by DeVries 1987 are to be recognised) are usually found as solitary individual male specimens and are generally rare, with most of the females being unknown. The feeding habitats, the foodplants and the early stages of most Costa Rican species are lastly unknown as well, although DeVries (1987) spent years in the field and visited most of the important butterfly collections in the world to comprise his publication. The particular locality of a taxon in Costa Rica may moreover be effected by the results of a mass migration (see DeVries 1987 and Jenkins 1990 for a more comprehensive account). Some taxa of *Eunica*, especially *E. monima* (Cramer) (1782: plate 387) (DeVries 1987 calls the taxon "*E. monima modesta*"; *E. modesta* (Bates) (1864: p. 113), however, is according to Jenkins 1990 a junior synonym), are apt to this

phenomenon, which may explain a year to year abundance in local Costa Rican areas (personal communication of P. DeVries to B. D'Abrera as published in D'Abrera 1987: p. 540). However, the distances covered are negligible: Costa Rican *E. monima*, which is best understood regarding migration, covers merely some one hundred kilometres from the Guanacaste region to the Atlantic slopes (DeVries 1987).

Any information covering *Eunica* in a comparatively thorough manner regarding species in Southern America remains hitherto unavailable due to the immense size of the subcontinent which did so far not allow a comprehensive evaluation of Eunican taxa regarding bionomics. At least some data have been published:

### ***Eunica* species in Southern America**

As is the case in Costa Rica, Southern American *Eunica* species are very fast flying, difficult to capture (even when using a trait), and very local. The extreme rarity of most *Eunica* species in general may be due to their tendency to stay within the forest at the canopy level (DeVries 1987, Jenkins 1990). They only seldomly descend to the ground, but *Eunica* species at times decide to feed on water seepage along a riverbank, landslip or puddle in the early morning, which basically warrants the only opportunity to capture a specimen.

### ***Eunica cuvierii* in Southern America**

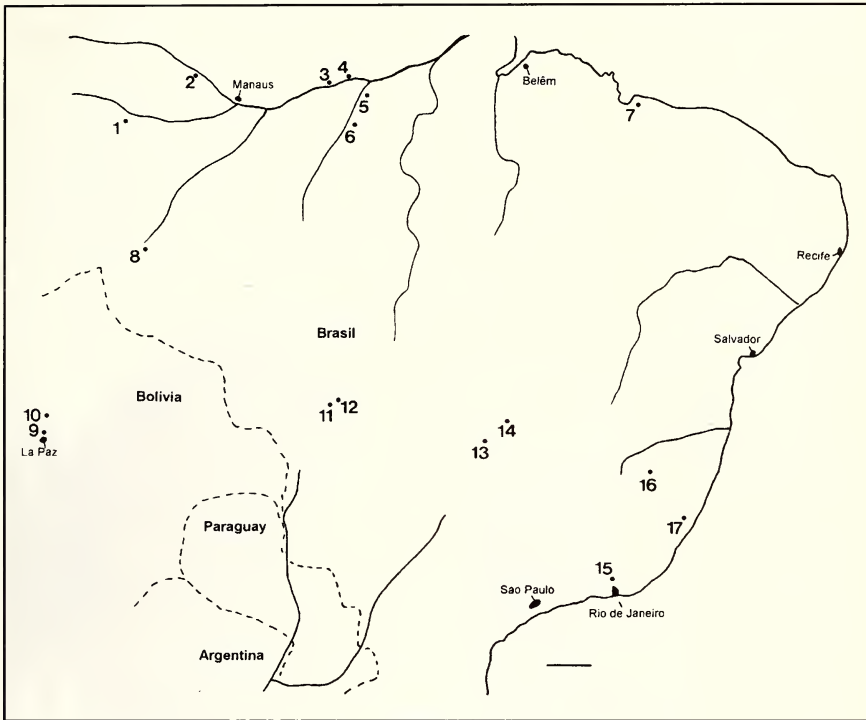
*Eunica cuvierii* is believed to be rare not because of staying in the deep rain forest and thus being difficult to capture, but for reasons of low abundance in general: According to Brown and Mielke (1967; cited from Jenkins 1990: p. 22), the species occurs "only in typical cerrado, flying among the stunted trees 1m above the ground. Does not enter forests". Jenkins (1990: p. 22) adds: "It appears to be a savannah species that usually does not occur in heavy forest."

Jenkins (1990) provided the most recent taxonomic re-evaluation of *Eunica* species hitherto published, and he included an account of the natural history and of the distribution range of most of the taxa in Southern America as was possible due to the limited amount of data available. Concerning *E. cuvierii*, Jenkins (1990) managed to examine 107 male and 18 female specimens in the course of visiting some 30 collections worldwide. Obviously, Jenkins (1990; consult page 22 of his paper) did not encounter the species himself although he had carried out various collecting trips to comprise his publication.

In the work of Seitz (1907: p. 484), the species was regarded as something of a rarity and that it when it occurred was "mostly single and in many places of the range rare". Some eighty years later, D'Abrera (1987) wrote, that he did not know this species other than from museum material, as it was the case concerning Jenkins' efforts (1990).

Regarding the distribution, the species has been believed to be restricted to the Amazonas lowlands by D'Abrera (1987; comp. Fig. 1). Jenkins (1990), however, found in the course of his extensive and scientifically extremely elaborate study

museum specimens, which had been collected in Bolivia, in the Brazilian Mato Grosso, in the Brazilian Goiás area and, most remarkably, in south-eastern Brazilian regions (Fig. 1; the figure was redrawn using Jenkins' data and a recent geographical guide of Brazil from Kopata 1993).

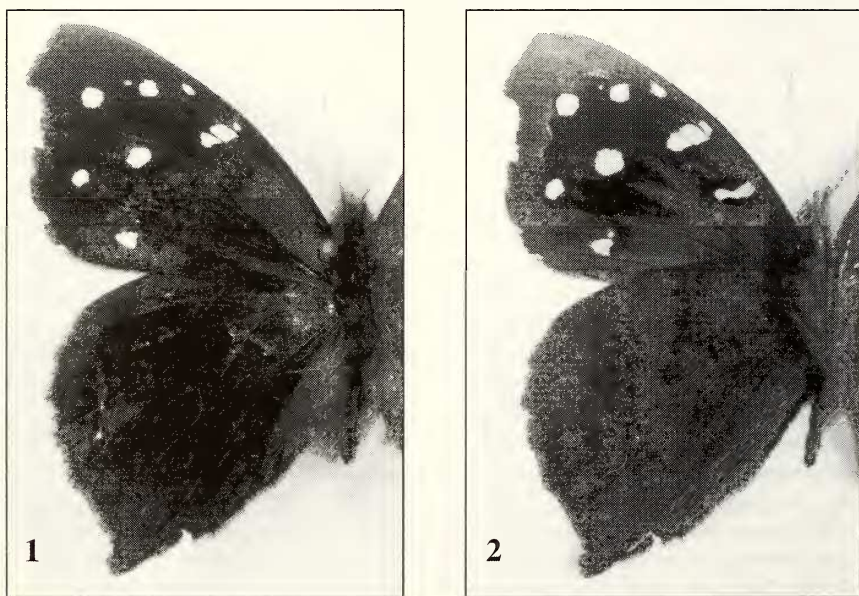


**Fig. 1:** This simplified map of a part of Southern America provides an account on the localities, where specimens of *Eunica cuvierii* have hitherto been collected (based on Jenkins, 1990). Bar scale: 200km. North is to the top of the figure. A statement like "(Moura?)" indicates that the specific locality is unknown and that the respective dot in the map was placed at the site of a town.

1: Tefé, 1 male (m); 2: Rio Negro (Moura?), 6 m, 1 female (f); 3: Juruí, 6 m, 4 f; 4: Obidos, 3 m; 5: Santarém, 23 m, 3 f; 6: Rio Tapajós (Fordlandia?), 3 m, 2 f; 7: Primeira Cruz, 1 m; 8: Porto Velho, 7 m; 9: La Paz, 1 m, 2 f; 10: Mapiri, 1 m; 11: Cuiabá, 9 m; 12: Chapada, 5 m; 13: several sites in Goiás state, which are located close to each other, comprising 27 m, 4 f; 14: several sites in Distrito Federal state, which are located close to each other, comprising 7 m, 2 f; 15: Três Rios, 1 m; 16: Poté, 2 m (present study; Minas Gerais, Brasil, 10.xii.1996 - 15.i.1997, elevation 500m); 17: Parque Rio Doce (Colatina ?), 2 m. Jenkins (1990) listed additionally three males from Bolivia with "...no specific locality". Possible major areas of distribution: 1-8: Amazonas; 9, 10: Bolivian Cordillera Real; 11-14: "Campos"; 15-17: south-eastern Brazil. The dots 8-17 cover a possible belt of distribution, ranging from La Paz via the Bolivian Yungas and the "Campos" to south-eastern regions of Brazil.

I do not understand why D'Abrera (1987) stated "Amazonas" as the range of distribution, although he worked on the collection of the British Museum of Natural History, which holds specimens from other regions (see Jenkins 1990). In this respect, I fully agree with Jenkins (1990: 2), that D'Abrera (1987) provided no serious bionomic approach but (merely) beautiful pictures, which may lead to confusion. However, D'Abrera only intended to "...provide a foundation for others", and his books are worthwhile to be consulted for a rapid taxonomic overview. Regarding *Eunica*, Jenkins (1990) corrected D'Abrera's work (1987) comprehensively (comp. page 2 in Jenkins' study and the list in his appendix A).

An evaluation of the guide of Kopata (1993) revealed, that by far most of the specimens hitherto known to science were collected either in the Amazon basin or in the "Campos" of central Brazil, comprising savannah-like stunted forest areas in the Mato Grosso and in the Goiás (including the Distrito Federal State around the capital



**Plate C.**

Fig. 1: A male specimen of *Eunica cuvieri* (Godart) from Poté, Minas Gerais, Brasil (10.xii.1996 – 15.i.1997, elevation 500m), Upperside. Fore wing length from base to apex: 28mm. Hubert Thöny leg. The animal is deposited in my private collection. Note the prominent, libytheid-like snout (i.e. long palpi), which made Felder (1861) to place the species among his newly erected nymphalid genus *Libythina* (not anymore available; Jenkins, 1990). Most similar regarding wing markings is *E. tatila bellaria* Fruhstorfer (1908: pp. 47-48; see Jenkins, 1990, for citation). From this taxon and from all other recognized *Eunica* species and subspecies, *E. cuvieri* can immediately be discerned by the longer palpi ("snout") and the swallowtail-like elongation of the hindwing tornus.

Fig. 2: As Fig. 1, Underside.



city Brasília). Obviously, there is a distinct population flying in the Amazonas region and another population seems to inhabit the central Brazilian "Campos" (some 60 and 50 specimens, respectively, known; comp. Fig. 1). Unfortunately, there is no information available on the species bionomics in the Amazon basin. Therefore, it remains possible if not likely, that *E. cuvierii* in the Amazonas lowlands is a forest dwelling species, whereas it is a savannah-form in central Brazil (Brown and Mielke 1967). The following list (commented) accounts on the very few Bolivian and south-eastern Brazilian specimens hitherto known:

**Bolivia:** Three males; specific locality unknown. Two males and one female from the area of La Paz. One male from Mapiri (Mapiri is located some 150km north of La Paz at a low elevation in the Cordillera Real mountains). The few data available on the species in Bolivia generally suggest that it occurs around La Paz in mountainous regions, possibly however at comparatively low elevations (Jenkins 1990 presumes that the taxon inhabits levels from around 100m to 1100m, unfortunately without citing any reference). Since Mapiri is situated at the slopes of the Cordillera, i.e. comprising foothills entering the Bolivian Yungas and, in extension, comprising to the Brazilian Mato Grosso (comp. Forster 1956/58, for geographical information), Jenkins' (1990) assumption, according to which *E. cuvierii* might represent a savannah-species, is supported.

**South-eastern Brazil:** One male from Tres Rios, close to Rio de Janeiro (Rio de Janeiro State). Two males from Minas Gerais State. Jenkins (1990) cites "Parque Rio Doce Jun.". I do not know this place. The Rio Doce rises at the eastern slopes of the Serra da Mantiqueira mountains in Minas Gerais State, located some 200km northwest of Rio de Janeiro (Rio de Janeiro State), runs some 300km towards the north-east and changes its direction towards East some 200km off the Atlantic Ocean, where it ends. It is possible – if not likely – that the site of capture of the Minas Gerais specimens has to be located somewhere around Colatina in Espírito Santo State.

The distances between the former areas to the Amazonas area and to the Campos are rather impressing (comp. Fig. 1). Moreover, the ecological-climatical factors are largely different (Rio de Janeiro state exhibits mountainous rain forest; the sites in Bolivia may, however, belong to the savannah-like Yungas). Based on all available data, it is suggested that *E. cuvierii* comprises four different populations in Southern America (Amazonas, Campos, and the areas in Bolivia and south-eastern Brazil).

Any new record of this rare species, particularly from places other than the Amazonas and Campos regions, may add new clues and insights regarding its general distribution and therefore its phylogenetic-taxonomic and ecological-bionomic relationships.

### ***Eunica cuvierii* from Poté, Minas Gerais**

Most recently, the author of the present note received a parcel containing mainly small Pierid and Satyrid taxa for determination, which were captured between 10.xii.1996 and 15.i.1997 at an elevation of 500m by Hubert Thöny at Poté in the

state of Minas Gerais, Brazil (Fig. 1). Two of the butterflies comprised in this parcel turned out to be males of *E. cuvierii* (Plate C). Both individuals were in best shape without any signs of being worn. Thus, the possibility that these specimens were members of a migration as it may at times occur in other taxa of the genus, may be excluded. Therefore, it is suggested that the species has a strong point of distribution in south-eastern Brazil.

Future work on this taxon should be undertaken in order to clarify, if there are hitherto unknown refuges between the four main areas of distribution suggested above, thus comprising a belt of distribution from La Paz to Rio de Janeiro, or, if the four areas of distribution as suggested above are in fact isolated from each other.

### Acknowledgments

I am indebted to Hubert Thöny, presently living at Poté, who was friendly enough to undertake the effort in providing some butterflies from the vicinity of his home in his adopted country Brazil, although he is mainly concerned with Brazilian Noctuid moths.

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